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The Apprenticeship Student Outcomes (APPSO) Survey is one of four annual surveys that make up the BC Student Outcomes project. The APPSO Survey targets former apprenticeship students who have completed the final level of their technical training; the Diploma, Associate Degree, and Certificate Student Outcomes (DACSO) Survey collects information from former students from diploma, associate degree, and certificate programs; the Developmental Student Outcomes (DEVSO) Survey focuses on former students who took Adult Basic Education and English as a Second Language programs; and the Baccalaureate Graduates Survey (BGS) is for graduates from all public degree-granting institutions.





The 2011 Apprenticeship Student Outcomes (APPSO) Survey targeted former students who completed the final year of their apprenticeship training in a B.C. post-secondary institution between July 1, 2009 and June 30, 2010. From January to April 2011, 3,599 former students from 38 post-secondary or training institutions (14 public and 24 private) completed the survey, by telephone or online. The response rate was 55 percent. The fol-



- 92 percent of respondents said they were *very satisfied* or *satisfied* with their overall workplace training
- 91 percent said their in-school technical training was *very related* or *somewhat related* to their workplace experience



- 95 percent of respondents were in the labour force (employed or looking for work)
- 11 percent of those in the labour force were unemployed
- 85 percent of respondents were employed
- 97 percent of employed respondents were working full-time
- 6 percent of employed respondents were self-employed
- 56 percent had done work placements with their current employer
- 78 percent of those who had not done work placements with their current employer took less than one month to find a job

91 percent of employed respondents had done work placements with their current employer





Trades and industry occupations are vital to B.C.'s economy. Currently, there are more than 100 trades for which apprenticeship training is available in the province, offering career opportunities in a diverse range of occupations. Apprenticeship training is delivered through a system that includes the Industry Training Authority, public post-secondary institutions, private training institutions, and employers. Approximately 80 percent of an apprentice's training is provided on-the-job; the remaining technical training is provided in a classroom or shop setting.

While the length of an apprenticeship can range from one to five years, traditional apprenticeships usually require four years to complete. A successful apprentice is one who completes the technical training and the required work hours and passes examinations to earn a Certificate of Apprenticeship and a "ticket" or Certificate of Qualification, after which he or she receives recognition as a "certified tradesperson."

The ministries of Advanced Education (AVED) and Jobs, Innovation and Tourism (JTI), the Industry Training Authority (ITA), and the institutions that provide technical training share a commitment to expand and improve delivery of apprenticeship training in B.C. Information provided by the annual Apprenticeship Student Outcomes survey is an important part of that process.

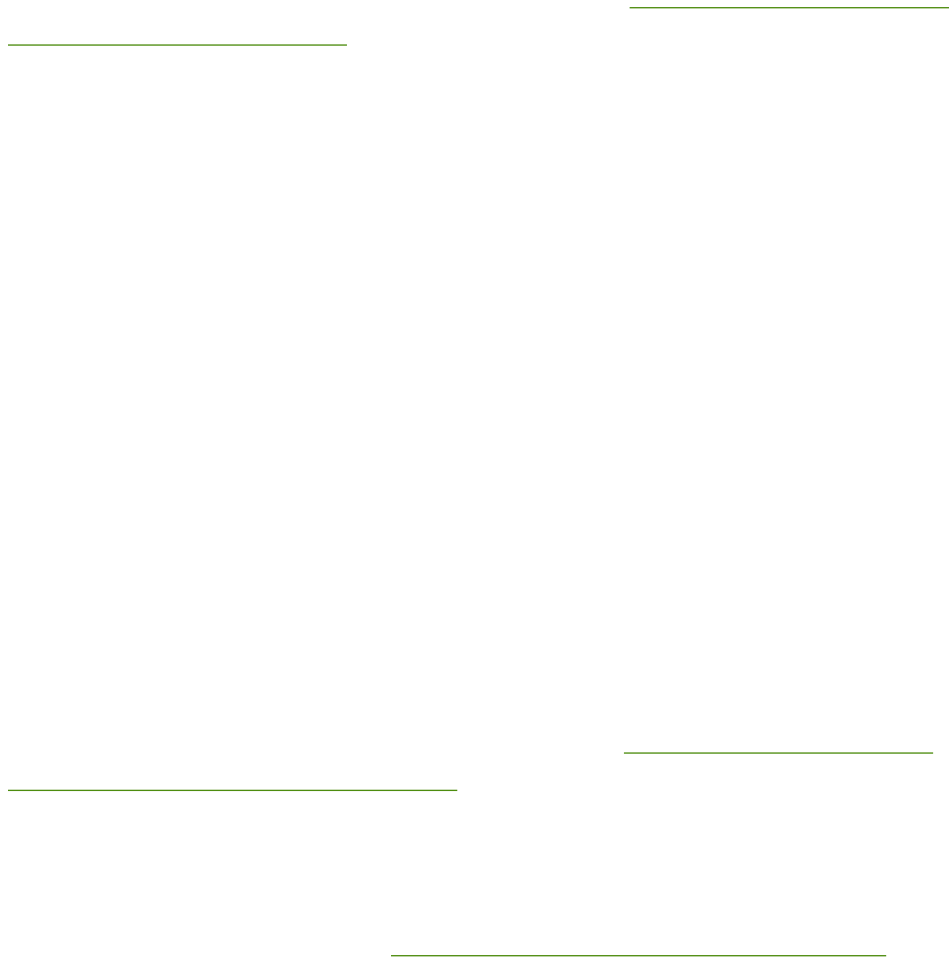
## About the 2011 Apprenticeship Survey

The 2011 Apprenticeship Student Outcomes (APPSO) Survey is the seventh annual survey of former apprenticeship students. This year, the survey group included former students who completed the final year of their apprenticeship program at a B.C. post-secondary institution between July 1, 2009 and June 30, 2010. The survey was conducted, by telephone and online, from January to April 2011; 6,515 former students were eligible for the survey. There were 3,599 respondents making the response rate 55 percent. The respondents were from 38 post-secondary or training institutions (14 public and 24 private) and had taken 215 apprenticeship programs. (For more information on the survey, see [Appendix A: Apprenticeship Survey Methodology](#).)

To provide insight into the apprenticeship experience, former students were asked to:

- rate aspects of their in-school and workplace training;
- evaluate the usefulness of the knowledge and skills they gained;
- quantify their level of satisfaction with their training; and
- describe their post-training employment and further education.

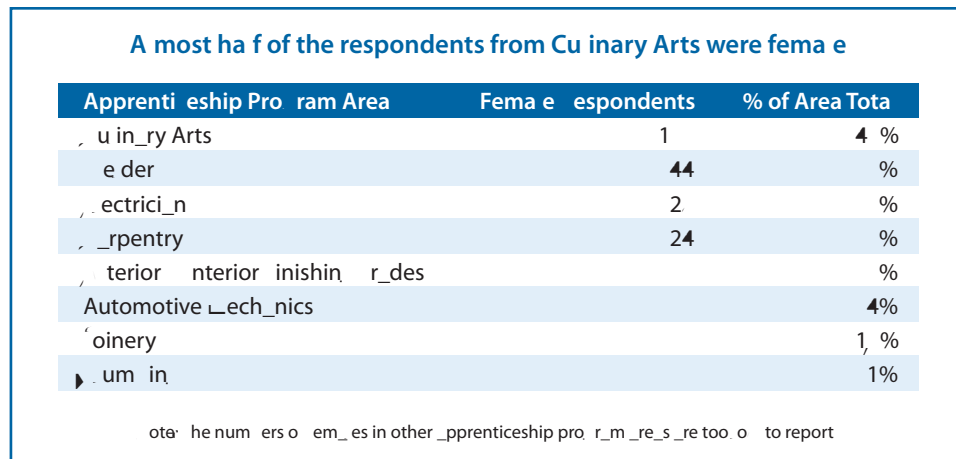
Data from the APPSO Survey are currently used by AVED and ITA for policy development and to monitor the effectiveness of the post-secondary system. Participating B.C.





The 2011 Apprenticeship Student Outcomes Survey incorporated questions about students' previous education, including other trades training and credentials already completed. They were also asked to report their immigration and Aboriginal status. Information on age and gender came from administrative records. The 3,599 former

ere were some di



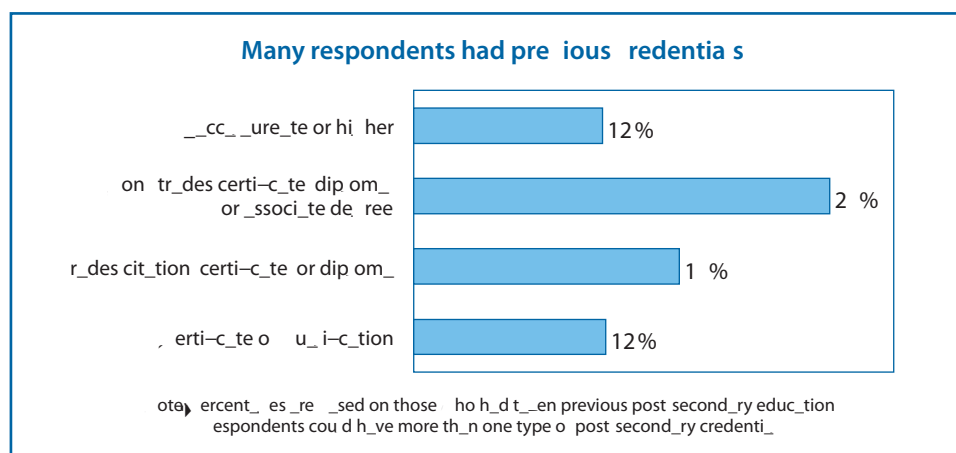
The percentage of respondents who identified themselves as Aboriginal went up in 2011, to 6 percent, compared with 2010, when 4 percent of former apprenticeship students self-identified as Aboriginal.

The 2011 APPSO survey included questions about country of origin and citizenship status. Most respondents (90 percent) were born in Canada, and of the 10 percent whose country of origin was not Canada, 68 percent were citizens and 27 percent were permanent residents while they were taking their training.

### What previous education did students have?

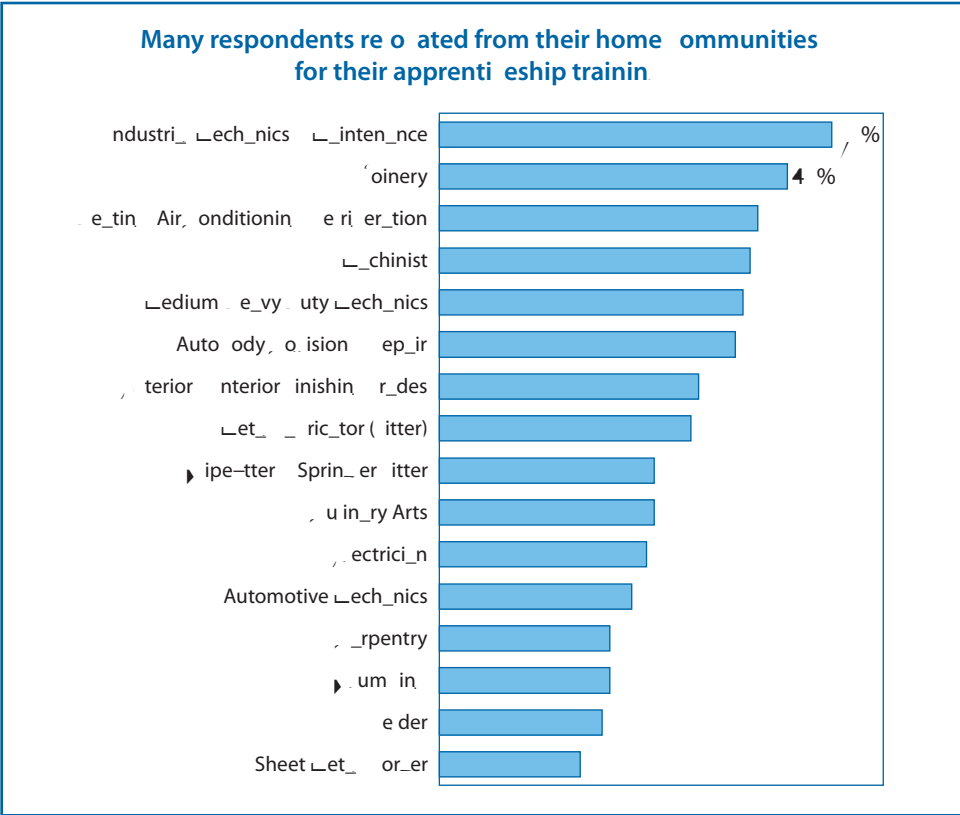
Before beginning their apprenticeships, 56 percent of respondents had taken pre-apprenticeship training or other post-secondary education—12 percent had taken both types of previous education.

A relatively large portion of those surveyed (39 percent) had taken post-secondary education other than specific pre-apprenticeship training. Of these students, 60 percent had achieved a credential: 17 percent had a trades program citation, certificate, or diploma and 12 percent had received trades certification (Certificate of Qualification) in a different field.





the former Industrial Mechanics & Maintenance students moved to study, while less than one-third of the respondents from Sheet Metal Worker programs relocated.







Some apprenticeship programs are offered exclusively by public institutions, others only by private institutions, and some are offered by both private and public institutions. The following table summarizes the delivery of training by program and institution type.

**Over half of the apprenticeship program areas had programs that were offered by both public and private institutions**

Apprenticeship Program Area	Public	Private
Automotive Collision Repair	yes	
Automotive Mechanics	yes	yes
Carpentry	yes	yes
Construction Heavy Equipment		yes
Studio Arts	yes	yes
Electrician	yes	
Interior/Exterior Finishing/Residential	yes	yes
Lifted Equipment (Linemen, Riggers, etc.)	yes	yes
Mechanical/Air Conditioning/Refrigeration	yes	yes





The former apprentices surveyed in 2011 were asked a number of questions about their in-school apprenticeship training. They were asked to state the level at which they began their apprenticeship training and then to provide ratings of the quality of their instruction, the content of their program, and the opportunities they were given to develop skills.

### ***How satisfied were former students with their in-school training?***

Almost all respondents (93 percent) said they were *very satisfied* or *satisfied* with the in-school education they received as part of their apprenticeship program. Overall satisfaction with in-school training has been consistently high since this survey began in 2005.

Although overall satisfaction with in-school training has not varied over time, it does vary across program areas. [Appendix E: Respondents' Satisfaction Ratings by Program Area](#) shows the current year's satisfaction results by program area.

### ***At what level did apprenticeship students begin their in-school training?***

Apprentices start their training in one of five possible levels; most of the survey respondents (83 percent) said they started their apprenticeship training at Level 1.

Pre-apprenticeship or foundation training was a factor that influenced the starting level for many former students. Those who had taken foundation training were more likely to start above Level 1: 32 percent of those who had taken the training started above Level 1, compared with only 12 percent of those who had not taken the training.

### ***Did in-school training provide opportunities to develop skills?***

Former apprenticeship students rated the extent to which their in-school training provided them with opportunities to develop a number of analytical and personal skills. If a particular skill was not relevant to their training, it was marked *not applicable*.

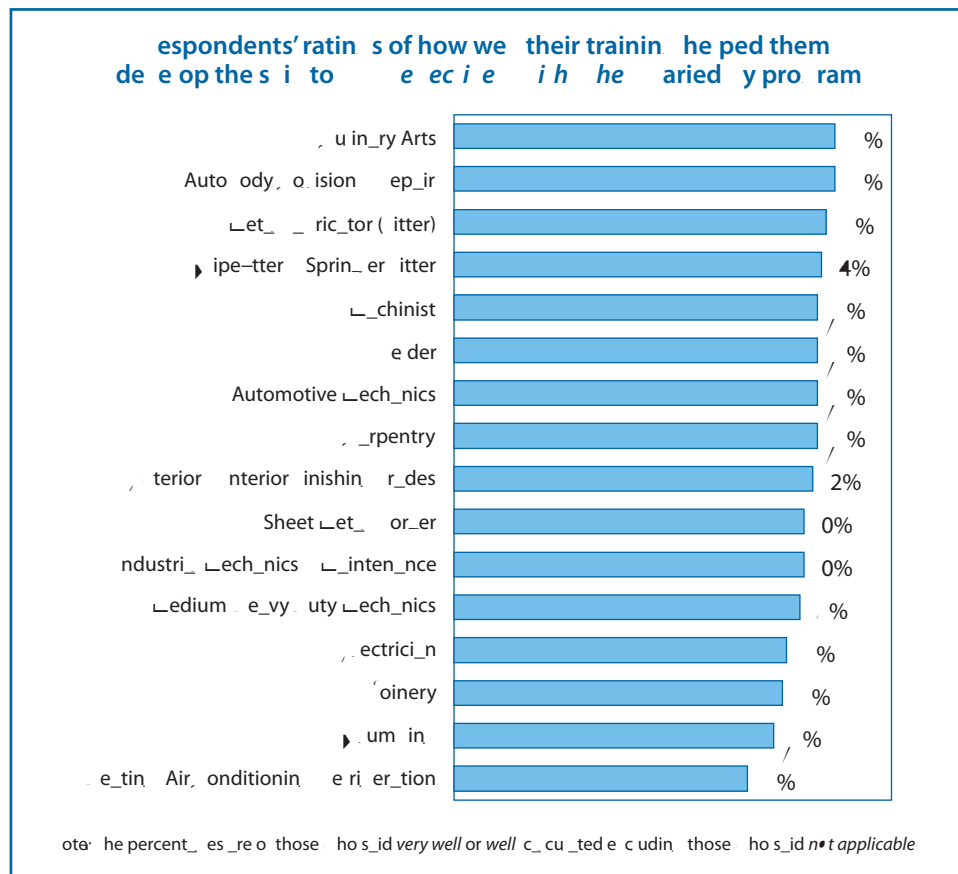
Respondents were asked to indicate how well their apprenticeship programs helped them to develop a variety of important employability skills: for example, *analyse and think critically; read and comprehend material appropriate to their field; and work effectively with others*

### Apprenticeship programs helped students develop skills

Skill	Very well or well	Not applicable
Analytical/critical thinking	7%	2%
Ability to comprehend appropriate materials	1%	2%
Working effectively with others	1%	0%
Addressing issues or problems	0%	0%
Writing clearly and concisely	4%	22%
Speaking effectively	0%	24%

Notes: The percentages of very well or well are cumulative. Those who said not applicable.

Respondents from different program areas gave different ratings for their skill development. Using *work effectively with others* as an example, 87 percent of former Culinary Arts students said their program helped them develop the skill, compared with 67 percent of former Heating, Air Conditioning, Refrigeration students who said the same.<sup>5</sup>



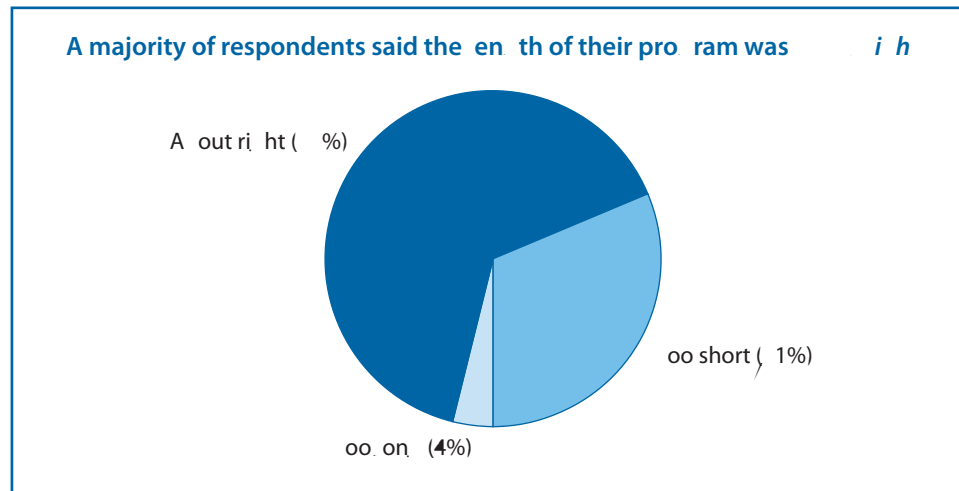
<sup>5</sup> For a listing of skills ratings by all program areas, see Appendix F: Ratings of In-School Training by Program Area.

## ***How did students rate the quality of their in-school training?***

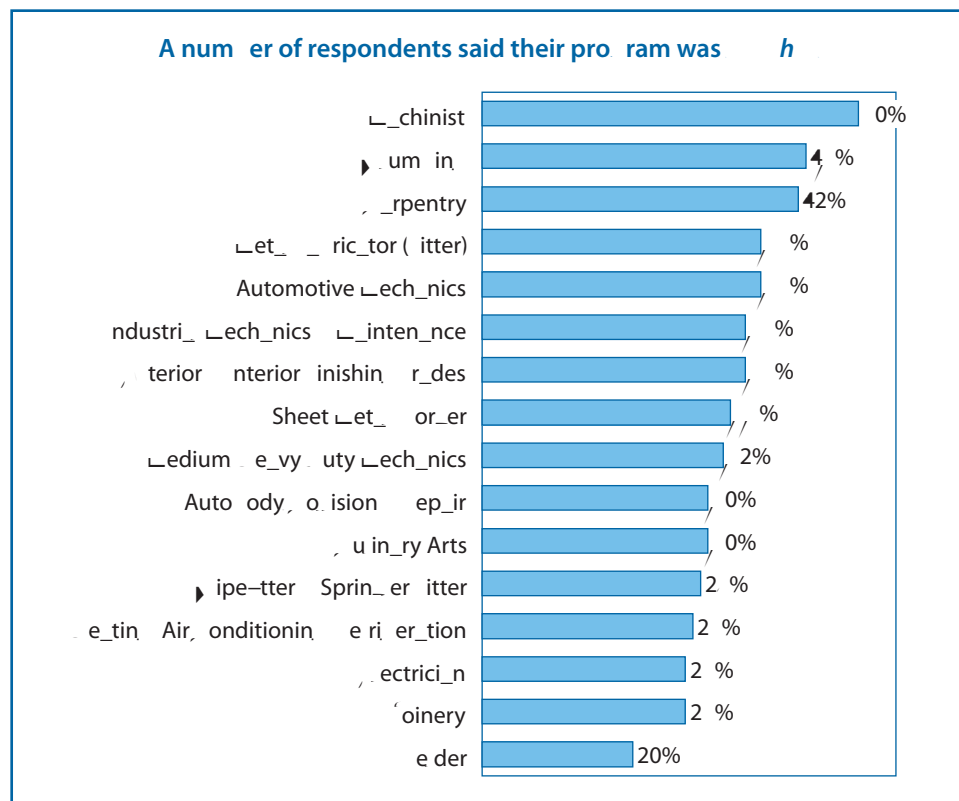
Former students were asked to rate certain aspects of their in-school training using a 5-point scale:

former students from Autobody/Collision & Repair programs rated the quality of their instruction *very good* or *good*, while 70 percent of Heating, Air Conditioning, Refrigeration respondents said the same.<sup>6</sup>

Almost two-thirds (65 percent) of the former apprenticeship students surveyed said the length of their program was about right to cover the material taught; almost one-third (31%) thought it was too short and very few said (4%) it was too long.

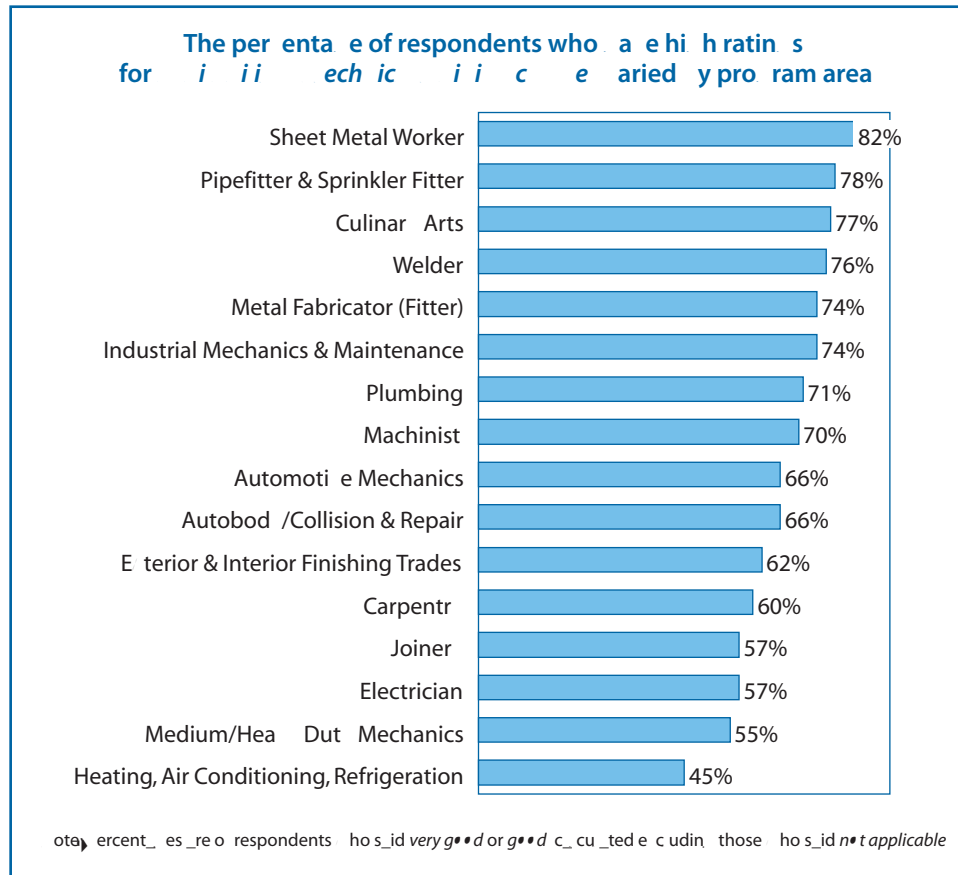


A number of respondents thought their program didn't give them enough time to cover the material adequately. Overall, this percentage was less than one-third of respondents; however, by program it varied from 20 to 50 percent.



6 For a listing of respondents' ratings of aspects of their in-school training for all program areas, see [Appendix F: Ratings of In-School Training by Program Area](#).

The former students surveyed were also asked to rate the availability of their technical training courses throughout their apprenticeship. The scale used was 5-points, from *very good* to *very poor*. Overall, a majority of 67 percent said the *availability of courses* was *very good* or *good*; another 23 percent said it was adequate. By program area, availability varied from 45 percent to 82 percent of respondents who said it was *very good* or *good*.

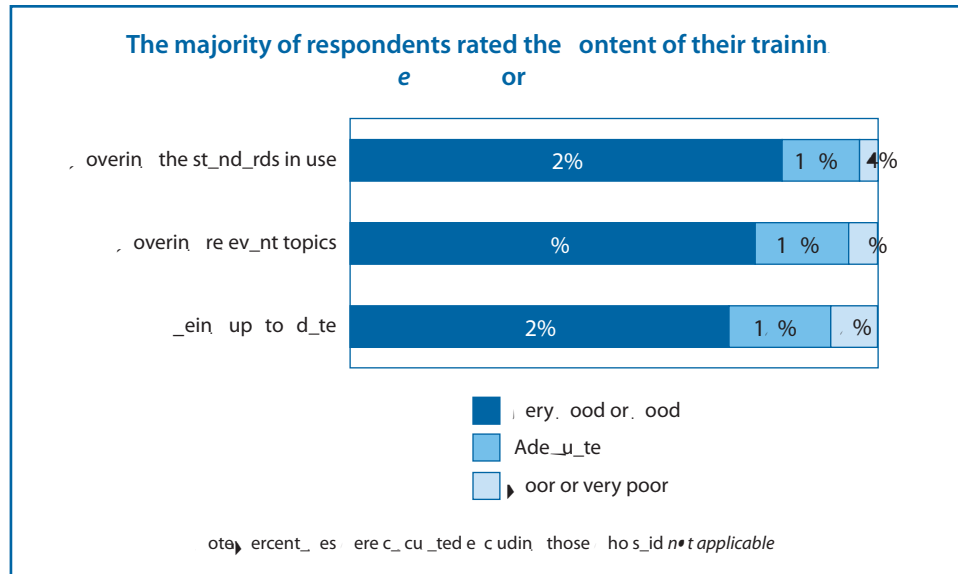


### How did respondents rate the content of their in-school training?

Former apprenticeship students were asked to rate the content of their in-school training in the following areas: *covering the standards being used in their fields*, *covering the topics most relevant to their fields*, and *being up-to-date*. These areas were rated on a 5-point scale, from *very good* to *very poor*. In each case, a majority of respondents gave either a *very good* or *good* rating.

Ratings of the content areas did not vary much over the years the APPSO survey has been





In the 2011 results, ratings varied by program, although in each case, a majority of respondents gave ratings of *very good* or *good*. The respondents from many of the program areas rated the items quite differently: for example, 89 percent of former Joinery students said their training *covered the standards used in their field*

## *How could in-school training be improved?*

The former students surveyed were asked how the training in their programs could be improved. Of the 93 percent who gave an answer, 26 percent said their program was fine—it needed no improvement. Many of the respondents who provided suggestions for improvement commented on more than one subject.

Probably the most frequently mentioned topic was that of the length of the program; at least 30 percent of the suggestions for improvement included a reference to program length. Most of those who commented on program length said that the program should be longer, although a handful of respondents said their program was too long. These findings are consistent with the results of the specific question on program length, where 31 percent of respondents said their program was too short.

*There was too much material to cover in too little time.*

*Make each of the semesters a week or two longer.*

*There should be more in-class lectures to prepare for the IP exam.*

*To improve the program, there needs to be more time learning stuff that you are going to use out in the field.*

*The length of the course is barely adequate to cover all the materials. Another two weeks would have done the course some good.*

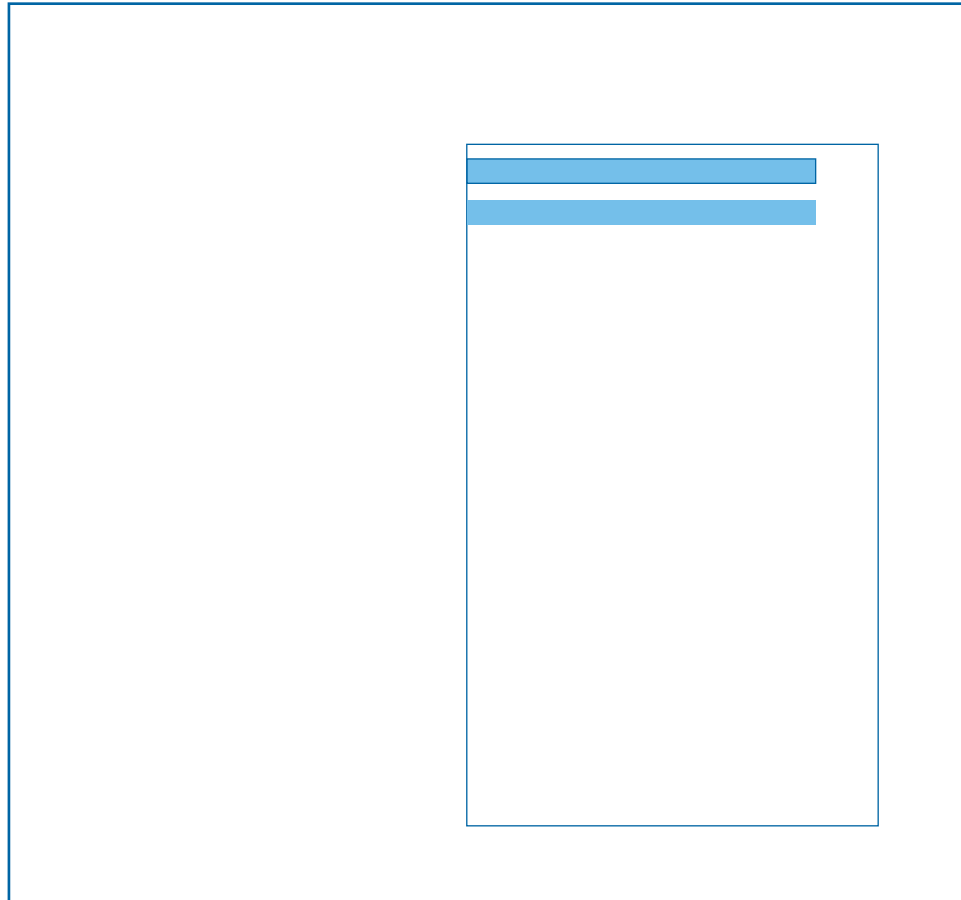
At least 24 percent of the comments included mention of teachers or teaching. There were





most (93 percent) agreed that what they gained from their training was *very useful* or *somewhat useful* to them in preparing to write the certification exam.

Overall, almost two-thirds (62 percent) of respondents said the knowledge and skills they gained were *very useful* to them. This percentage varied considerably across program areas, from 76 percent of former Industrial Mechanics and Maintenance students to 39 percent of those from Joinery programs.



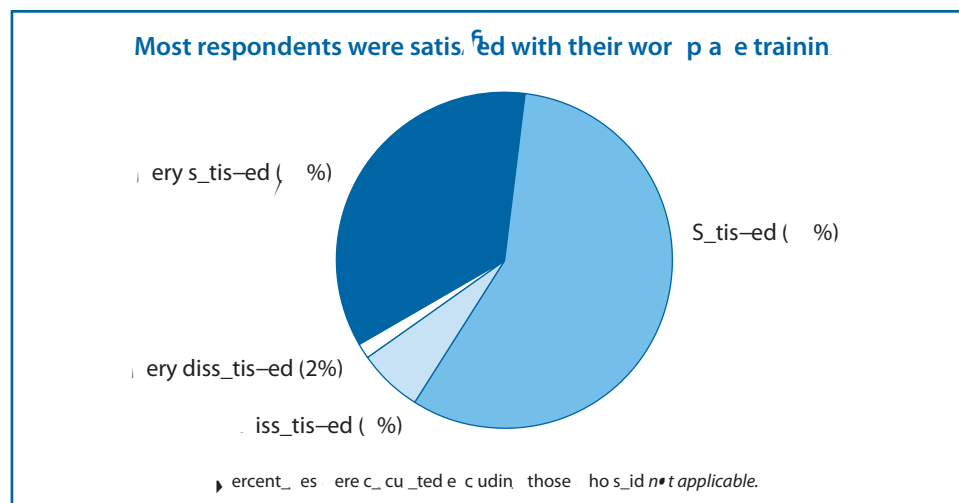




The 2011 survey included two questions for former students about their on-the-job experiences as apprentices. They were asked to say how related their workplace experience was to their in-school training and to provide a rating of their overall satisfaction with their workplace experience.

### How satisfied were former apprentices with their workplace training?

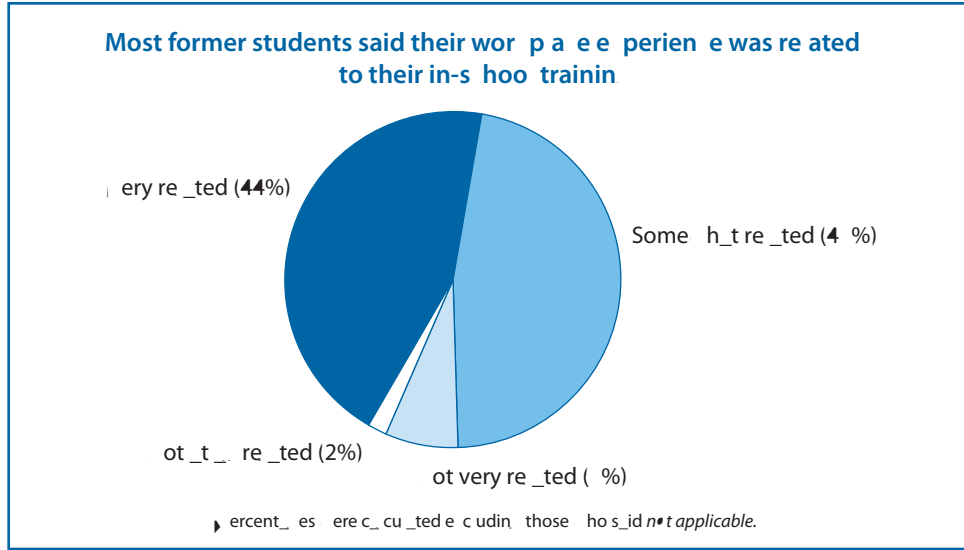
Most survey respondents (92 percent) said they were *very satisfied* or *satisfied* with their overall workplace training experience. This level of satisfaction with on-the-job training is consistent with previous years' satisfaction ratings.



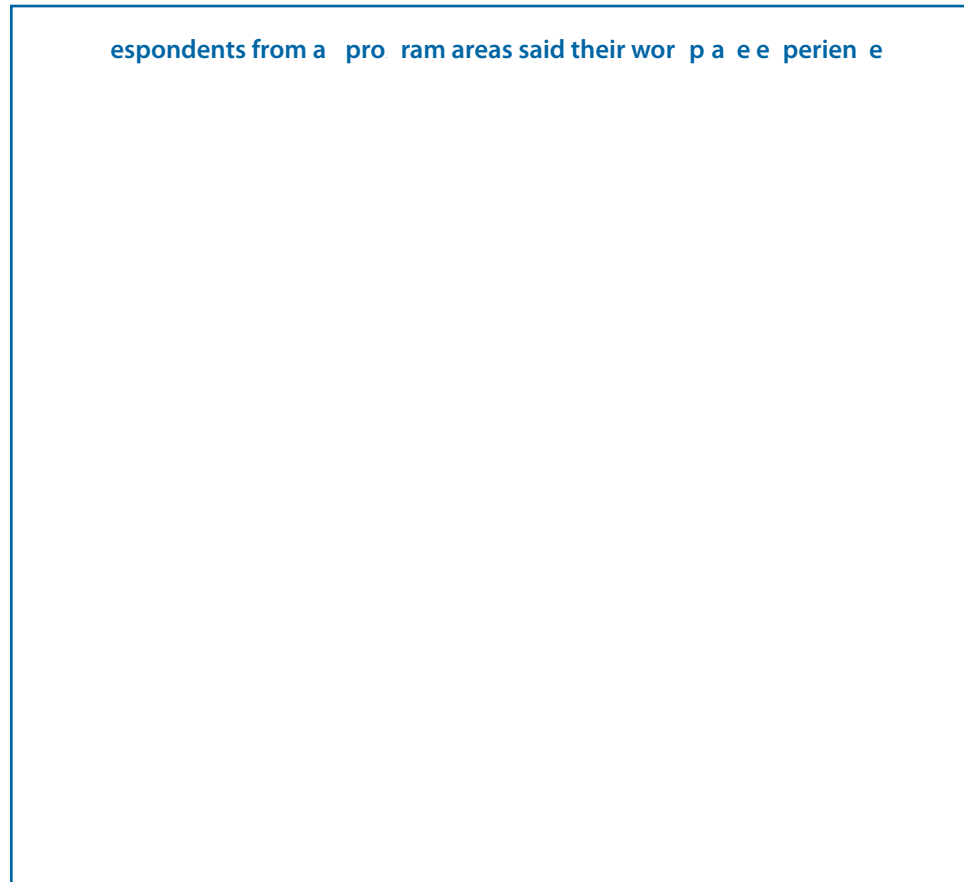
Although overall satisfaction with workplace training has not varied much over time, it did vary across program areas. [Appendix E: Respondents' Satisfaction Ratings by Program Area](#) provides the 2011 results by program area.

### How related was the workplace experience to in-school training?

Most (91 percent) of the former apprenticeship students surveyed said their in-school technical training was related—*very related* or *somewhat related*—to their workplace experience. Very few said their in-school and workplace training were completely unrelated.



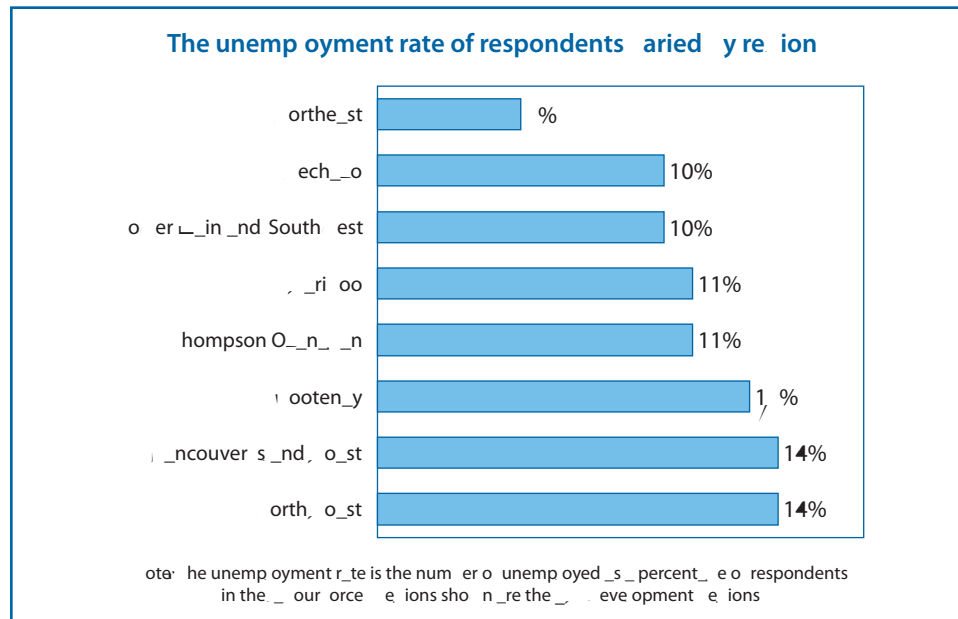
The proportion of respondents who said their in-school training was *very related* or *somewhat related* to their workplace experience was consistently high across all program areas, ranging from 98 percent (Autobody/Collision & Repair) to 77 percent (Sheet Metal Worker).







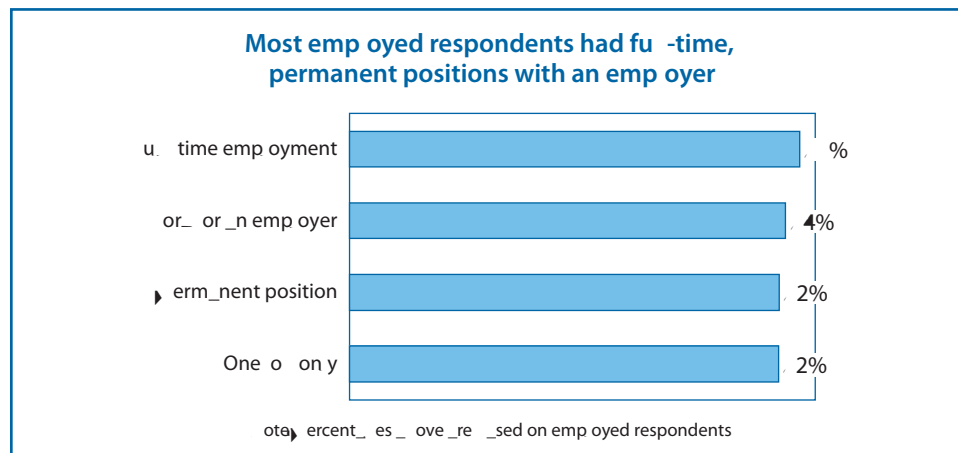
The unemployment rate also varied by region, ranging from a low of 5 percent in the Northeast region to 14 percent in the Vancouver Island/Coast region and the North Coast.<sup>9</sup>



### What were former students' employment outcomes?

At the time of the survey, 85 percent of survey respondents were employed at a job or business. In approximately the same time period, March 2011, the employment rate (unadjusted) for the B.C. population aged 20 to 54 was 77 percent.<sup>10</sup>

Most employed respondents had only one job and it was probably a permanent, full-time position rather than a part-time or temporary one. Likewise, most respondents were employed by someone else rather than being self-employed (6 percent were self-employed).

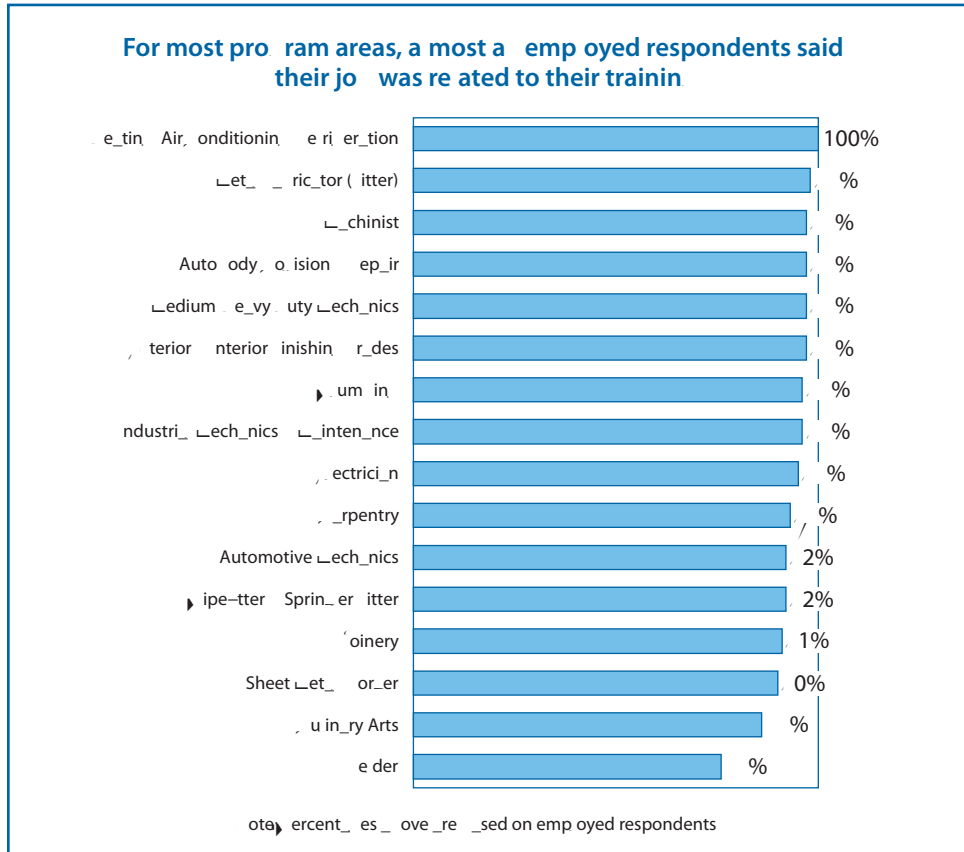


<sup>9</sup> The regions are the B.C. Development Regions, described here: <http://www.bcstats.gov.bc.ca/StatisticsBySubject/Geography/ReferenceMaps/DRs.aspx>.

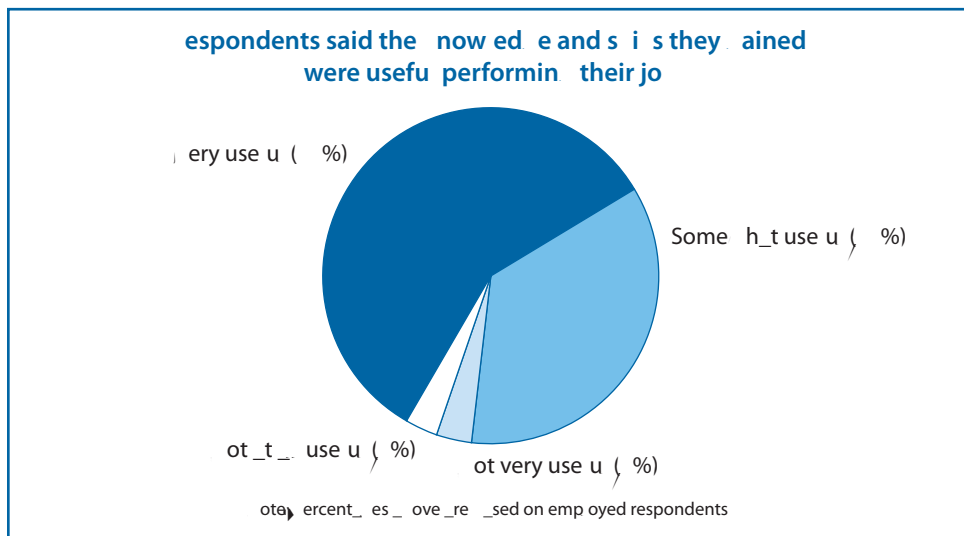
<sup>10</sup> Source: Statistics Canada, Labour Force Survey, 2011.



Across the larger program areas, most employed respondents said their job was related to their training. In the case of respondents from Heating, Air Conditioning, Refrigeration programs, all respondents said their job was *very* or *somewhat related* to their apprenticeship training.



To explore the relationship of training to employment in more depth, former students were asked to say how useful the knowledge and skills they gained through their program of studies had been in performing their job. Again, a very large majority said they had been *very* or *somewhat useful*: 58 percent said *very useful* and 35 percent said *somewhat useful*.



The ratings across the larger apprenticeship program areas were consistently high—from 86 to 97 percent of respondents from each area said the knowledge and skills they gained were useful for their employment. (For detailed results by program area see [Appendix H: Usefulness of In-School Training when Performing Job, by Program Area](#).)



### Hourly wage varies significantly by occupation

Occupation	Respondents	Hourly wage
Electricians, transport, equipment mechanics	10	\$17
Electricians, telecommunications	41	\$20
Contractors, Supervisors, related	14	\$20
plumbers, pipe-fitters, fitters	2	\$22
Other, construction related		\$22
Electricians, Shipbuilding, related	421	\$22
Electricians, related		\$22
Painters, related	20	\$22
Motor vehicle mechanics	2	\$22
Others, related	24	\$27

Note: The above represents the occupation groups at the Q1, did it even the occupations shown are the top ten accounting for 4 percent of employed respondents



Trades and industry occupations are vital to British Columbia's economy, and the provincial bodies responsible for apprenticeship training in B.C. work continuously to improve and expand the delivery of trades training. Their efforts over the last several years have resulted in a significant and steady increase in the numbers of former apprenticeship students who are eligible for the Apprenticeship Student Outcomes (APPSO) Survey every year. The 2011 APPSO survey cohort (those eligible for the survey) was a third larger than that of 2010's and almost twice the size of the 2009 cohort. The number of survey respondents has increased accordingly. Also in 2011, there were more training institutions participating in the survey than ever before—the number of private training institutions has gone up significantly over the years, as has the portion of respondents from those institutions.

Part of the rapid increase in cohort size can be attributed to some changes in the appren-

content of courses—covering the standards being used in their fields, covering the topics most relevant to their fields, and being up-to-date—have also gone up somewhat. The largest





## Appendix A: Apprenticeship Survey Methodology

The survey cohort included all apprenticeship students who *completed the final year of their apprenticeship programs* at a participating B.C. post-secondary institution. The following criteria were used to define the survey cohort: all apprenticeship students who completed the final year of their apprenticeship programs between July 1, 2009 and June 30, 2010 at a B.C. public post-secondary institution or at a B.C. private training institution.

Since apprenticeship students may take different parts of their apprenticeship programs at different institutions, the last institution that the student attended was considered the institution of record and that institution was asked to submit the name in their cohort file. The cohort extract included elements such as name, address, telephone number, program description, gender, birth date, program start date, and completion date.

There were 38 B.C. post-secondary institutions that participated in this project—14 of them were public. These public institutions provided 82 percent of the cohort. The cohort of students from private institutions was provided by the ITA. The following tables list the participating institutions, the number of former apprentices from each who were eligible for the survey, and the number who responded to the survey.

Public Institutions	Eligible for survey	Respondents	Response rate
British Columbia Institute of Technology	14	1	%
Simon Fraser University	4		

The cohort extracts were assembled and reviewed for completeness and then passed to the survey contractor for data collection.



Field testing of the survey instrument was done January 6 to January 9, 2011, using a sub-sample of the available cohort—84 respondents were surveyed. The data collection contractor noted some issues that

The following table shows the disposition of the survey cohort that was submitted for data collection.

Case	N	% of Cohort
Telephone completion	22	4%
Online completion	2	10%
Textless, e-mail, Appointment	10	1%
Not in Service region	//	%
Respondent unusable	21	%
Searchline needs incorrect	20	%
Searchline needs unconfirmed	10	%
Short Appointment	1	2%
No Answer	.	2%
Non-unique	4	1%
Respondents to Online	4	1%
Second respondent unusable	4	1%
Reverse looked out of order, Survey	2	0%
Short Appointment		



Of the former students who were interviewed—55 percent of those eligible for surveying—were those from the cohort who could be located and who agreed to be surveyed. They may not be representative of all former students.

Some of the 24 apprenticeship program areas had relatively small numbers; for these programs, the numbers were too small to permit comparative or in-depth analysis.



For consistency and ease of presentation, most percentages in the report text, tables, and charts have been rounded and may not always add to 100.

Unless otherwise noted, each percentage is based on the number of students who gave a valid response to the question—those who refused the question, or said don't know, were not included in the calculation.

## ***Appendix B: Trades Programs Moved from DACSO to APPSO***

In 2010, there was a change to the cohort selection criteria that had an impact on a few of the APPSO program areas that are analysed in the report. In 2010, the program areas including cook and welding programs were affected. For the 2011 survey cycle, the cohort selection criteria were expanded somewhat and the resulting cohort moved from the Diploma, Associate Degree, and Certificate Student Outcomes (DACSO) Survey was larger than that of the previous year and included a few former carpentry students, from Residential Construction programs.

### **From the 2011 Apprenticeship Student Outcomes Survey Cohort Distribution Instructions:**

There were 920 respondents from programs formerly in DACSO; from the apprenticeship program areas

	From previous year in A SO	From previous year in A SO	Other programs
Analyse critically	10%	2%	1%
Understand	10%	2%	1%
	0%	1%	1%

Employment outcomes were also impacted by the addition of respondents who would previously have been surveyed in DACSO, although within groups, the differences were not always pronounced. For example, labour force participation was not too different between those from programs previously in DACSO and the other respondents; except for those in the Welder program area, the labour force participation rates are the same for both groups. The unemployment rates, however, have been affected by the addition of the younger and less experienced respondents.

	Program Area	from programs previously in DACSO	from programs previously in SO	Other programs
Labour force participation		92%	92%	92%
Unemployment rate	Welder	2%	2%	2%

## Appendix C: Apprenticeship Program Areas and Institutions' Programs

Code	Institution Name
...	...oor, overin'oint, on erence Society
...	...nstitute o echno o y
... A	...ei in Associ_tion
... OA	...ro_d _nd nstitute
... AL	...mosun, o.e.e
... AS	S_v_tion Army, _sc_de, u in_ry Arts Schoo
... A	...hristi_n _ our Associ_tion o, _n_d_
...	...o.e.e o e, _edoni_
... O	...o.e.e o the oc_ies
...	...iscovery, ommunity, o.e.e
...	...ectric_ ndustry r_inin nstitute
SA_	uner_ Service Associ_tion o _
... A	...niversity o the r_ser_ _ey
... S	nterior_e_vy, _uipment Oper_tor Schoo td
'A S	'oint Apprentice_e ri_er_tion_r_de Schoo
'S	he inishin_r_des nstitute o _
'	'_nt en_ o ytechnic_ niversity
...	...orth s_nd, o.e.e
...	...orthern i_hts, o.e.e
... A	...orth est, u in_ry Ac_demy o _ncouver nc
...	...orth est, ommunity, o.e.e
O, ...	Oper_tin_ n_in_eers r_inin_ entre
O	O2 000 0. . 2 / 2 re 1 0 m 1 4 entre



Program Area	Institution	Institution's Program Name	Respondents
Auto body, o. ision ep_ir	O	Apprentice Auto_ody	/
		Apprentice Auto_int e-nishin	
		Apprentice Automotive e-nishin rep echnici_n	
	I, ,	Auto, o. ision ep_ir Apprentice eve,	2
		Auto_ ss nst_ er Apprentice eve 2	4
		Auto_int e-nishin Apprentice eve 1	11
		Auto e-nishin rep Apprentice eve 1	1
<b>Automotive Tech_nics</b>			
_	_	Automotive echnici_n Acur_ ond_(A ) Apprentice	
		Automotive echnici_n Apprentice	/ 2
	Automotive echnici_n (AS ) Apprentice	1	
, AL		Automotive Service echnici_n Apprenticeship r_inin	10



terior nterior inishin r_des		
oor, overin nst_er	Apprenticeship	
e_t rost nsu_tion	Apprentice	
A	_ther ( nterior Systems ech_nic) ( _ , ei in nst_er) Apprenticeship	24
S	ry _ inisher Apprenticeship	
	_zier Apprenticeship	1
	_ther ( nterior Systems ech_nic) ( _ , ei in nst_er) Apprenticeship	1
	inter And ecor_tor Apprenticeship	14
	esidenti_ _ui din _inten_nce or_er	
A_	oo er ( oo er _mp_nd _terproo er) Apprenticeship	
S_	esidenti_ _ui din _inten_nce or_er Apprenticeship	

Industry	Apprenticeship	Count
Manufacturing	Advanced Manufacturing Apprenticeship	4
	Advanced Manufacturing Apprenticeship	12
	Advanced Manufacturing Apprenticeship	10
	Advanced Manufacturing Apprenticeship	4
	Advanced Manufacturing Apprenticeship	1
	Advanced Manufacturing Apprenticeship	1
	Advanced Manufacturing Apprenticeship	1
	Advanced Manufacturing Apprenticeship	1
Retail	Retail Apprenticeship	1
	Retail Apprenticeship	1
Transport	Transport Apprenticeship	1
	Transport Apprenticeship	1
Agriculture	Agriculture Apprenticeship	1
	Agriculture Apprenticeship	1
Education	Education Apprenticeship	1
	Education Apprenticeship	1
Healthcare	Healthcare Apprenticeship	1
	Healthcare Apprenticeship	1
Construction	Construction Apprenticeship	1
	Construction Apprenticeship	1
Information Technology	Information Technology Apprenticeship	1
	Information Technology Apprenticeship	1
Creative Industries	Creative Industries Apprenticeship	1
	Creative Industries Apprenticeship	1
Professional Services	Professional Services Apprenticeship	1
	Professional Services Apprenticeship	1
Public Services	Public Services Apprenticeship	1
	Public Services Apprenticeship	1
Other	Other Apprenticeship	1
	Other Apprenticeship	1

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## Appendix D: Response Rates by Program Area

Apprenticeship Program Area	Eligible Survey Respondents	Response Rate
Automotive Body, Collision Repair	12	0%
Automotive Mechanics	20	12%
Carpentry	2	40%
Construction Heavy Equipment	0	0%
Studio Arts	40	4%
Electrician	24	0%
Interior Design	27	1%

## *Appendix E: Respondents' Satisfaction Ratings by Program Area*





## Appendix F: Ratings of In-School Training by Program Area

Apprenticeship Program Area	Analyze and synthesize	Lead and comprehend	Collaborate with others	Resolve issues or problems
Automotive Body, Collision Repair	95%	95%	95%	1%
Automotive Technicians	95%	95%	95%	95%
Electrician	95%	95%	95%	4%
Construction Heavy Equipment	100%	100%	95%	95%

Apprenticeship Program Area	Quantity of instruction	Organization of program	Quantity of tools & equipment	Amount of practical experience
Automotive Body Repair	10%	10%	10%	4%
Automotive Mechanics	1%	2%	2%	1%
Carpentry	1%	2%	1%	1%
Construction Heavy Equipment	1%	1%	1%	1%
Studio Arts	1%	1%	4%	4%
Electrician	1%	1%	1%	0%
Interior Finisher/Designer	0%	1%	1%	1%
Welding (Lincoln Electric)	4%	1%	1%	1%

## Appendix G: Quali cation or Certi cation by Program Area

Apprenti eship Pro ram Area	% Qua i fied	a id responses
Auto ody, o ision ep_ir	%	1
Automotive _ech_nics	%	1 1
_rpentry	1%	42
_onstruction _e_vy, _uipment	// %	/
_u in_ry Arts	1%	/
_lectrici_n	4%	/
_terior nterior inishin_r_des	0%	1 /
ie d, _uipment (_in in _ri in _o _in )	0%	/ 0
_e_tin Air, onditionin _e ri _er_tion	%	1
_orticulture _ndsc_pin	1%	2
ndustri_ _lectronics	2%	22
ndustri_ _ech_nics _ _inten_nce	2%	12
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## Appendix H: Usefulness of In-School Training when Performing Job, by Program Area

Apprenticeship Program Area	Very useful	Somewhat useful	Not very useful	Not at all useful	Total responses
Automotive Technology	4%	1%	0%	0%	14
Carpentry	2%	0%	0%	1%	44
Construction Heavy Equipment	100%	0%	0%	0%	0
Industry Arts	2%	0%	4%	4%	1
Electrician	0%	4%	4%	0%	4
Interior Design	1%	0%	2%	0%	14
Industrial Maintenance (Lineman, Riveter, etc.)	0%	0%	0%	21%	24
Industrial Air Conditioning Refrigeration	0%	0%	0%	0%	0
Manufacturing Technology	0%	0%	4%	0%	2
Industrial Electronics	0%	1%	0%	0%	2
Industrial Technology Maintenance	1%	0%	2%	1%	12
Welding	0%	42%	0%	0%	0
Welding	1%	1%	0%	0%	1
Welding	4%	0%	0%	0%	0
Welding - Power Sport	0%	1%	0%	0%	1
Welding - Heavy Duty Technology	0%	0%	4%	1%	1
Welding - Fabricator (Fitter)	0%	2%	4%	0%	0
Welding - Science, Math, Min	0%	1%	0%	0%	1
Welding - Reheating	1%	4%	1%	0%	11
Welding - Sprinkler Fitter	0%	0%	4%	2%	0
Welding - Min	0%	0%	2%	2%	04
Sheet Metal Worker	0%	40%	4%	0%	0
Welder	4%	2%	0%	0%	4
Other	0%	0%	0%	0%	041

Percentages based on employed respondents



Apprenticeship Program Area Occupation Category	Number in Occupation	Percent in Occupation
Medium-Voltage Technicians		
Machinery, Transportation, Equipment Technicians	1	100%
Motor Vehicle Technicians	2	200%
Construction Supervisors (Retired)	1	100%
Electrician (Industrial)		
Construction Supervisors in Agriculture	1	100%
Agriculture Electrician (Retired)	1	100%
Industrial Electronics		
Occupations in Electronics, Electric, Engineering	1	100%
Electric (Retired) Communications	1	100%
Industrial Technicians (Maintenance)		
Machinery, Transportation, Equipment Technicians	100	100%
Other (Retired) Commercial Drivers	14	14%
Line Worker		
Electric (Retired) Communications	1	100%
Electrician		
Electricians (Retired) Occupations	10	100%
Machinery, Transportation, Equipment Technicians	1	100%
Electrician (Power Sport)		
Other Technicians	1	100%
Other (Retired) Commercial Drivers	1	100%
Electrician (Science, Maintenance)		
Technician Occupations in Person Service	1	100%
Electrician (Warehousing)		
Recording Scheduling Distribution Occupations	11	100%
Electrician (Sprinkler Fitter)		
plumbers, Pipe-fitters, Sitters	4	400%
Construction Supervisors (Retired)	1	100%
Machinery, Transportation, Equipment Technicians	1	100%
Other Technicians	1	100%
Plumber		
plumbers, Pipe-fitters, Sitters	20	200%
Construction Supervisors (Retired)	1	12%
Machinery, Transportation, Equipment Technicians	4	40%
Electrician (Industrial (Manufacturing))		
Medium-Voltage Equipment Operators	1	100%
Retired Electricians (Manufacturers)	1	100%

Note: Occupations with fewer than three respondents are not shown; there are most programs do not add to 100 percent. Occupation categories are the direct O

Machinery			
Electrician	Electricians	2	2%
Electrician	Supervisors	0	0%
Metal Fabricator (Fitter)			
Metal Fabricator	Metal Fabricators	44	0%
Metal Fabricator	Supervisors	0	0%
Metal Fabricator	Supervisors	4	4%
Sheet Metal Worker			
Sheet Metal Worker	Sheet Metal Workers	0	0%
Sheet Metal Worker	Supervisors	0	0%
Sheet Metal Worker	Transportation, Equipment Technicians	0	4%



